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EXAMINER	
GREENE, DANIEL LAWSON	
ART UNIT	**PAPER NUMBER**
3663	

DATE MAILED: 11/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/671,086	ALVORD ET AL.	
	Examiner	Art Unit	
	Daniel L. Greene Jr.	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14,16-20 and 22-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14,16-20 and 22-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 September 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The instant application is directed towards and/or related to the field of target assemblies for use with accelerators for the production of radioisotopes. More particularly to a target assembly, i.e. an apparatus, for containing a fluid for irradiating Oxygen-18 with protons in order to create Fluorine-18.

A review of the instant application's Figures 1 and 3 indicates remarkable resemblance in structure that is proposed recognizable by one of skill in the art. A review of Figures 3 and 5 also show remarkable resemblance, however it must be noted that Figure 5 is actually a longitudinal cross sectional view offset from centerline and therefore as applicant states in the response received 8/19/2005, pages 11 and 12, the inlet and outlet ports and channels shown in Figure 3 are indeed still present in Figure 5. With the figure similarities in mind, it appears that applicants inventive concept merely includes changing the location of the means for cooling the target assembly from the outside of said assembly to the inside of said assembly and selecting an alternate material of construction, both concepts already well known in the art of nuclear transmutation target assemblies as shown and explained in detail below.

Applicant response received 8/18/2005 includes a declaration from Mr. Charles W. Alvord wherein Mr. Alvord attempts to set forth the metes and bounds of the ordinary skill level of one in the transmutation target art, however it is noted that besides Mr. Alvord's statements alone without presentation of factual proof, said statements can only be construed as an opinion. The Office regrets to inform applicant that no patentable weight can be given to an opinionated declaration. Consequently, said

declaration cannot be relied upon as an adequate response to the issues presented in the previous office action mailed 4/21/2005.

Please note that no weight is given to an opinion declaration on the ultimate Legal conclusion in issue. See In re Lindell, 155 USPQ 251. See also In re Pike et al, 84 USPQ 235.

Drawings

1. The replacement drawing of Figure 1 is acceptable. Applicant's amendments to and arguments against the objections to the drawings set forth in sections 2-4 of the 4/21/05 Office action are persuasive therefore said objections in this regard are withdrawn.

2. However, the drawings are now objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore:

A. The embodiments wherein the coolant channels are only partially enclosed within the target body as disclosed in claims 13 and 35 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Applicant's 8/19/2005 amendment introduced the limitation "a length enclosed within said target body", however the drawings appear to only show cooling channels with their entire length enclosed within the target body. It is not seen wherein there exists a drawing showing cooling channels that are only "partially" enclosed within said target body.

B. The embodiment wherein the cooling channels run alongside ONLY a "portion" of a back wall as disclosed in, for example, claims 1, 5, 13 and 29 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

It appears that according to Figure 5 the coolant channels run alongside the entire back wall not only a portion of a back wall.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. Applicant's amendment to the Abstract is acceptable and the objection set forth in section 6 of the 4/21/05 Office action is withdrawn.

Claim Objections

4. The cancellation of claim 21 is acknowledged and the objection in section 7 of the 4/21/05 Office action is withdrawn.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Specification Objection - 35 USC § 112

5. The specification is objected to under 35 U.S.C 112, first paragraph, as failing to provide an adequate written description of the invention and as failing to adequately teach how to make and/or use the invention, i.e. failing to provide and enabling disclosure for the reasons set forth in section 7 of the 4/21/05 Office action.

Applicant's 8/19/2005 arguments, see pages 14-16 have been considered but are unpersuasive of any error.

Applicant's declaration of Charles W. Alvord has also been considered in its entirety however it is not seen where any factual evidence has been presented in support thereof. It appears the entire declaration only sets forth the

declarants opinions, unsupported by factual evidence and it is therefore insufficient in overcoming the contentions of the Examiner.

Please note that no weight is given to an opinion declaration on the ultimate legal conclusion in issue. See In re Lindell, 155 USPQ 251. See also In re Pike et al, 84 USPQ 235.

As stated in sections 8. A. of said 4/21/05 Office action the specification contradicts itself. Paragraph 27 clearly sets forth turbulent flow, however paragraph 29 contradicts this statement by stating "developed flow," allows for greater heat transfer.

In section 10 of applicant's declaration received 8/19/2005, applicant appears to be defining "fully turbulent flow" as "developed flow". If applicant were indeed attempting to define developed flow as fully turbulent flow then it would appear that a high Reynolds number would indeed be synonymous.

However, as stated in sections 8. C. of said 4/21/05 Office action, it must be noted that nowhere in the specification is there a precise definition set forth for the terms "developed flow", "nearly developed flow" and "fully developed flow". Section 12 of applicant's 8/19/2005 declaration states that these terms and concepts are taught to engineering students in a typical fluid dynamics class, however no factual evidence in support thereof has been presented as to what all is meant and encompassed by said terms.

As shown by any one of Stern (top figure on page 1, and figure 6.7), Kiel et al. (column 10 lines 53+), Nilsson (column 1 lines 55+) or Recktenwald, it

appears that these phrases (i.e. "developed flow", "nearly developed flow" and "fully developed flow") are related to laminar flow not turbulent flow.

Therefore according to the documentary evidence set forth by the examiner. It is apparent that those skilled in the art would indeed need further explanation and clarification of "such basic concepts" especially when it appears applicant is attempting to apply repugnant definitions to said terms.

While applicant may be his or her own lexicographer, a term in a claim may not be given a meaning repugnant to the usual meaning of that term. See In re Hill, 161 F.2d 367, 73 USPQ 482 (CCPA 1947).

Regardless of whether or not the objection to the specification is directed towards the theory of operation, the fact remains that at least claims 7, 8, 22-27, and 33-34 specifically disclose either developed flow, nearly fully developed flow, fully developed flow or a Reynolds number indicating turbulent flow, therefore the definitions, limitations, metes and bounds of developed flow, nearly fully developed flow, fully developed flow should have been clearly set forth within the specification itself.

Regarding Section 8. B. of said 4/21/05 Office action, at least claim 20 discloses the precept of paragraph 31 of the specification, however paragraph 31 fails to disclose exactly how and in what manner the actual "shape" of the target chamber itself is capable of forming a steam jet without the aid of anything else.

According to paragraph 28 of the specification, it appears that it is the transfer of energy from the proton beam to the beam strike area of the front

window and the enriched water within said beam strike area that causes said "steam jet" to form, NOT the SHAPE of the target chamber or the size of the front window.

It does not appear that either the shape of the target chamber alone or the front window having a larger area than the beam strike area of and by itself, is sufficient to induce fluid flow within the target chamber without some other influence or motivation, hence the specification is insufficient in disclosing EXACTLY how and in what manner either of these, i.e. the shape of the target chamber and the size of the front window, will actually induce said flow.

Claim Rejections - 35 USC § 112

6. Claims 7, 8, 22-27, 29-31, 33 and 34 are rejected under 35 U.S.C. § 112, first paragraph, as based on a disclosure which is not enabling for the reasons set forth in section 11 of the 4/21/05 Office action.

Applicant's 8/19/2005 arguments see pages 16-18 have been considered but are not persuasive.

Applicant's 8/19/2005 declaration of Charles W. Alvord has also been considered in its entirety however it is not seen where any factual evidence has been presented in support thereof. It appears the entire declaration only sets forth the declarants opinions, unsupported by factual evidence.

Again, please note that no weight is given to an opinion declaration on the ultimate legal conclusion in issue. See In re Lindell, 155 USPQ 251. See also In re Pike et al, 84 USPQ 235.

As stated in said 4/21/05 Office action, and discussed in section 5 above the definitions, metes and bounds of the various terms for developed flow and what particular Reynolds numbers applicant is of the opinion will cause turbulent flow within the instant invention have not been set forth in the specification, hence those skilled in the art would not know exactly what flows and Reynolds numbers applicant is attempting to claim patent coverage for.

7. **Claims 1, 13 and 35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.**

Regarding claims 1 and 13 applicant's 8/19/05 amendment introduced the limitation "said target body having a back end opposite said front face, said target body having an outside surface between said front face and said back end", however there is no adequate description or enabling disclosure of what all is meant and encompassed by the phrase "said target body having a back end" since the specification only uses the term "back side" in for example paragraph 10. The term "back end" is not considered as having the identical meaning to the

term "back side" because the "back end" of the target chamber, which is opposite said front face can also be construed as reading on "a back end", therefore the limitation "a back end" is considered new matter.

Regarding claims 13 and 35 applicant's 8/19/05 amendment introduced the limitation "a length enclosed within said target body". The limitation "enclosed" is considered new matter in that the specification discloses cooling channels that are "totally enclosed" or are "internal" to the target body. The limitation enclosed within is not considered to have the same meaning as "totally enclosed within". Additionally the limitation "a length" does not connote any particular length, per se. A length can be construed as reading on ANY length therefore the limitation "a length enclosed within said target body" is considered new matter because the specification appears to only account for cooling channels that are entirely enclosed within or internal to the target body.

8. Claims 10 and 32 are rejected under 35 U.S.C. § 112, first paragraph, because the specification, while being enabling for irradiation by a proton particle beam, does not reasonably provide enablement for irradiation by any other type of particle beam for the reasons set forth in section 12 of the 4/21/05 Office action.

Applicant's 8/19/2005 arguments see pages 18-19 have been considered but are not persuasive.

Applicant's 8/19/2005 declaration of Charles W. Alvord has also been considered in its entirety however it is not seen where any factual evidence has been presented in support thereof. It appears the entire declaration only sets forth the declarants opinions, unsupported by factual evidence.

Again, please note that no weight is given to an opinion declaration on the ultimate legal conclusion in issue. See In re Lindell, 155 USPQ 251. See also In re Pike et al, 84 USPQ 235.

It is noted that applicant (see, for example, Applicant's 8/19/2005 arguments page 19, second paragraph) is invoking the means-plus-function limitations as permitted by 35 U.S.C. § 112 paragraph six with respect to claim 32 and claim 32 will hereinafter be construed as such.

Claim 32 is an apparatus claim. It is understood that the apparatus is the "means for containing a target liquid" the limitation "for irradiation" is considered to be the intended use of said target liquid because it is the target liquid that is intended to be irradiated to produce fluorine-18, not the means for containing the target liquid alone without any target liquid therein.

Therefor it is not considered that the limitation "for irradiation" is to be interpreted under the 35 U.S.C. § 112, 6th paragraph means-plus-function requirement and therefore said limitation is to be given in its broadest reasonable interpretation.

Wolf et al. (page 360, 3rd paragraph) and Ruth et al. (column 1, lines 40-50) clearly disclose that those skilled in the art of fluorine-18 production are fully

aware that there are different reaction mechanisms for said production of fluorine-18, which inherently are functional equivalents because the end product is said flourine-18.

In this regard the examiner has clearly set forth a rejection to claims 10 and 32 in that the limitations "irradiation" and "bombarded" are broader than the enabling disclosure because these terms provide for the use of "equivalent" particles other than protons, however the specification fails to disclose exactly what other particles are capable of being used with the instant invention to produce the same results.

It does not appear that the target would still function if it was bombarded or irradiated with a beam of gamma, Helium, neutron or electron particles because each of these particles has a different atomic mass and method of interaction with the "target material" as shown for example by Wolf et al. Additionally as shown by Heselius, page 12, 4th paragraph the target materials must be carefully chosen to account for example activation of the target chamber, however the specification fails to disclose how and in what manner tantalum would or would not be activated by each and every of the "equivalent" particle beams.

Hence, while the specification may allegedly provide enablement for bombardment with a proton particle beam, it does not reasonably provide enablement for irradiation by any other type of particle beam. It is the examiners position that it would indeed require an undue amount of experimentation to

determine such and the statute requires the application itself to inform, not to direct others to find out for themselves; In re Gardener et al, 166 USPQ 138, In re Scarbrough, 183 USPQ 298.

9. Claim 29 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling for the reasons set forth in section 13 of the 4/21/05 Office action.

Applicant's 8/19/2005 arguments see pages 19-20 have been considered but are not persuasive. Applicant's 8/19/2005 Alvord declaration has already been addressed and as explained in section 5 above, since the definition of "developed flow" has not been set forth it must follow that the achievement of such is not possible.

10. Claims 1-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. Applicant's 8/19/2005 amendment to claim 34 reintroduced the limitation "said first cooling channel". There is insufficient antecedent basis for this limitation in the claim.

B. The phrase "Reynolds number indicating a turbulent flow" in Claims 8, 25-27 and 34 is a relative term which renders the claims indefinite for the reasons

set forth in section 15 of the 4/21/05 Office action and further explained in section 6 above.

Applicant has failed to provide documentary evidence dispositive of examiners exertion that "Reynolds number indicating a turbulent flow" in Claims 8, 25-27 and 34 is a relative term, which renders the claims indefinite. As explained above in section 6 which refers to section 5, the 8/19/2005 Alvord declaration is insufficient and the applicant has failed to disclose exactly what Reynolds numbers are considered to indicate turbulent flow in the instant invention, hence the metes and bounds of the claims are undefined and unascertainable.

C. Applicant's 8/19/05 amendment to claims 1 and 13 make claims 1 and 13 vague, indefinite and incomplete in what all is meant by and encompassed by the phrase "a back end" (underlining added), hence the metes and bounds of the claim are undefined. See the discussion of this topic in section 7 above.

D. Claims 1, 2, 5, 13 and 29 are vague, indefinite and incomplete in what all is meant by and encompassed by the phrase "running alongside a portion" (underlining added). Applicant's 8/19/05 amendment to claims 1 and 13 introduced the limitations "alongside" and "a portion" however "alongside" is a relative term that does not positively recite any structural relationship (see the definitions of alongside and nearby) of exactly how near or far the first cooling channel must be to the upper wall because, for example, it is considered that two lanes of a divided highway do indeed run alongside each other. Additionally the

limitation "a portion" is also a relative term that can be assigned no definite meaning as to what exactly constitutes "a portion", hence the metes and bounds of the claim are undefined.

E. Claim 3 is vague, indefinite and incomplete in what all is meant by and encompassed by the phrase "in fluid communication" because the claim fails to positively recited exactly what is in fluid communication with what. Applicant's 8/19/05 amendment to claim 3 introduced the limitation "wherein said first cooling channel and said second cooling channel are in fluid communication" however it does not appear that the claim language positively recites exactly what is in fluid communication, i.e. the claim language does NOT require the first and second cooling channels to be in fluid communication with each other, or to anything else for that matter, hence the metes and bounds of the claim are undefined.

F. Claims 1 and 13 are vague, indefinite and incomplete in what all is meant by and encompassed by Applicant's 8/19/05 amendment to said claims introducing the limitation "an outside surface between said front face and said back end" because the specification discloses several outside surfaces and the claims do not specify exactly which outside surface exactly constitutes "an outside surface". It is not clear that the limitation "an outside surface" is intended to mean the entire outside surface, a portion of the outside surface, a specific area of the outside surface , etc., hence the metes and bounds of the claim are undefined.

G. Applicant's 8/19/2005 amendment added new claim 35, however there is insufficient antecedent basis for the limitation "said first cooling channel" in said claim 35 .

11. **Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections.** See MPEP § 2172.01. The omitted structural cooperative relationships are:

A. The manner in which it is the shape of the target chamber alone that causes a steam jet to formed in the manner proposed,

B. the manner in which it is the shape of target chamber alone that causes a steam jet to flow into a steam bubble in the manner proposed,

C. the manner in which the first cooling channel transfers heat directly from the steam bubble thereby condensing said bubble when the first cooling channel is isolated from the target chamber and therefore said steam bubble.

Applicant's 8/19/2005 arguments see, for example pages 23-24, have been considered, however they are not persuasive.

Similar to the discussion in section 5 above, claim 20 includes limitations that require that the "shape" of a structure causes certain actions to be performed without any other stimuli, i.e. the target chamber is "shaped" such that a steam jet is formed. It does not appear that the shape of said target chamber

alone is capable of causing a steam jet to be formed in and by itself. According to paragraph 28 of the specification, it appears that it is the incident radiation energy interacting with the target water and window that cause the jet of superheated steam to form.

Regarding item B, it is not the shape of the target chamber that causes the steam jet to flow to a steam bubble adjacent the upper wall in the target chamber, it is the well known fact that steam naturally rises and would normally collect into a bubble. Again this is natural occurrence in nature, it is not the shape of the target chamber that motivates the steam jet to rise or causes the bubble to occur.

Regarding item C, it is not the cooling channel that transfers heat from the steam bubble. As applicant has so aptly states, the examiner must interpret the claims in their broadest reasonable sense without importing limitations from the specification into the claims. Accordingly it is not simply the first cooling channel transferring heat from the steam bubble. As stated in claim 13 the first cooling channel is "for removing heat contained in said target chamber" and "said cooling channel is isolated from said volume within said target chamber". Applicant's limitation that the cooling channel transfers heat from the steam bubble does not include the structural relationships of, for example, the upper condenser plate, nor how the cooling channel can transfer heat from the steam bubble. The examiner included the term "directly" because the claim language does not preclude such an interpretation. Since the cooling channel is not in direct contact

with the steam bubble, said cooling channel cannot directly transfer heat from said steam bubble.

As previously explained in section 5 above, applicants 8/19/2005 declaration is insufficient in overcoming the contentions of the Examiner.

Claim Rejections - 35 USC § 102

12. Claims 1-3, 7-8, 10, 11, 13, 14, 17-20, 22-27, 32-34 and 36 are rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent 6,586,747 B1 to Erdman for the reasons set forth in section 19 of the previous office action mailed 4/21/2005 as further explained below.

Applicant's arguments filed 8/19/2005 have been fully considered but they are not persuasive except with regard to claims 28 and 31 (i.e. arcuate cross section) and the rejection to ONLY claims 28 and 31 in this regard have been withdrawn.

Regarding claims 1 and 32, Erdman discloses applicants invention as claimed and explained in said section 19 of said 4/21/05 office action wherein it is understood that items (62/58) now read on the front face, the target body (reads on the combination of items (52) and (68)) and the upper wall now reads on that portion of the target chamber (60) that is on the right side (near indicia (50) in Figure 3) of said target chamber that is perpendicular to said front face.

An outside surface between said front face and a back end opposite said front face reads on any part of the outside surface of the target holder.

A first cooling channel (66/78) runs alongside a portion of said upper wall wherein it is understood that the area of channel (66/78) closest to said upper wall does indeed run alongside, beside, nearby, and/or adjacent, (see the definitions of the terms alongside, beside and adjacent) a portion of said upper wall. As stated in section 10. D. above, the term alongside is a relative term that can be given no definite meaning and therefore the claim language reads on the examiners instant interpretation.

Said first cooling channel (66/78) is indeed a conduit defined within said target body.

With regard to applicant's invocation of the means-plus-function limitations as permitted by 35 U.S.C. § 112 paragraph six with respect to claim 32 (see, for example, Applicant's 8/19/2005 arguments page 19, second paragraph) the limitations "a means for containing a target liquid" and "a means for cooling" are explained below.

"a means for containing a target liquid" Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Applicant directs attention to paragraphs 30 and 31 of the specification in an attempt to apparently limit what can be considered equivalent structures, however it is noted that said paragraphs 30 and 31 are merely describing only one embodiment, wherein, for example, paragraphs 24, 28 and 39 of the specification clearly disclose that "the means for containing a target liquid" are not limited to only those embodiments disclosed and therefore do not exclude the structure of Erdman.

Erdman clearly discloses "a means for containing a target liquid", because the structure of Erdman clearly contains " a target chamber within the target body" as allowed by page 10 of the specification, lines 12-14 which inherently performs the function specified by the claim, i.e. containing a liquid and as explained above, Erdman clearly has structure performing the function specified in the claim in substantially the same manner as the function is performed by the corresponding elements described in the specification as shown in the explanation above as well as section 19 of said 4/21/05 office action.

Regarding "a means for cooling", again, applicant has merely disclosed embodiments of cooling means without the exclusion of Erdman. According to paragraph 30, lines 16-19 of the specification, "the function of cooling the target assembly is performed by at least one cooling channel adjacent to and parallel to the upper wall, with the cooling channel having developed flow."

As previously explained, Erdman clearly has at least one cooling channel adjacent to and parallel to the upper wall which is inherently capable of having developed flow.

As to limitations which are considered to be *inherent* in a reference, note the case law *In re Ludtke*, 169 USPQ 563, *In re Swinehart*, 169 USPQ 226, *In re Fitzgerald*, 205 USPQ 594, *In re Best et al*, 195 USPQ 430, and *In re Brown*, 173 USPQ 685,688.

Regarding claims 2 and 3 as explained in said section 19 of said 4/21/05 office action the second cooling channel (76) still reads on a second cooling channel running alongside, beside, nearby, and/or adjacent, (see the definitions of the terms alongside, beside and adjacent) a portion of the back wall (reads on, for example, that area where coolant flow from coolant channel (76) changes direction to enter cooling channels (74))

Regarding claims 7, 8, 33 and 34 applicant's 8/19/05 arguments are not persuasive of any error. Erdman is clearly capable of the intended use and it is only necessary that the reference be capable of doing so in order to anticipate the claim language.

Regarding claim 10 and 11 applicant's 8/19/05 arguments (see page 35) are not persuasive of any error. A review of the definition of "natural circulation" clearly discloses that the structure of Erdman is clearly a functional equivalent of applicants "means for inducing fluid flow in the enriched water". The target chamber of Erdman is shaped and arranged such that it inherently causes a

quantity of enriched water in the target chamber to undergo natural circulation because:

1. During irradiation, a temperature difference exists between the beam strike area and the cooled region of the back wall,

2. the heat source, i.e. front window, beam, etc. is at a lower elevation that the heat sink (for example, cooling channels (74)), and

3. the fluid being heated by the front window or irradiated by the beam is clearly in contact with the water being cooled by the back wall.

Thus natural circulation is inherently occurring within Erdman when bombarded with a particle beam.

In this regard it is noted that Erdman clearly discusses the thermal conductivity of the material of construction of the target holder, in for example column 6 lines 14-33 and that sufficient cooling is required for effective use of a target holder of lower thermally conductive material. Erdman further teaches in column 7 lines 16-32 that one method of compensating for said lower thermal conductivity is to employ a thinner rear window and passing cooling fluid over said window.

Claim 13 is explained in the rejection of corresponding parts of claims 1 and 2 in said section 19 of said 4/21/05 office action wherein it is understood that Erdman clearly has a target body with a back end opposite a front face AND an outside surface there between (reads on, for example, an external surface of said target body). Item (64) clearly reads on applicants back wall and the cooling

channels do indeed run alongside, beside, and adjacent to the upper and back walls. Also, the channels of Erdman clearly have a length enclosed within said target body.

It is noted that applicant's amendments to the claim language does not define over the structure of Erdman as explained in said section 19 of said 4/21/05 office action.

Erdman discloses claim 14 in the rejection of corresponding parts of claims 1, 2 and 5 in said section 19 of said 4/21/05 office action wherein it is understood that the third channel reads on coolant inlet (76) and the fourth channel reads on, for example, one of the multiple parallel channels (74) disclosed in, for example column 7 lines 33-42.

It is noted that applicant's amendments to the claim language does not define over the structure of Erdman as explained in said section 19 of said 4/21/05 office action.

Erdman discloses claim 17 in the rejection of corresponding parts of claims 1, 2 and 9 in said section 19 of said 4/21/05 office action as well as the explanation of the rejection of claim 13 above.

Erdman discloses claims 18-20 in the rejection of corresponding parts of claims 1, 2 and 11 in said section 19 of said 4/21/05 office action as well as the explanation of the rejection of claims 10, 11 and 13 above.

With regard to claims 7,8, and 22-27 the cooling channels of Erdman are clearly capable of performing the limitations claimed by simply varying the flow rate of coolant through the cooling channels.

Applicant's arguments filed 8/19/05, see page 38, have been fully considered but they are not persuasive.

Regarding claims 7 and 8 and in response to applicant's argument that claims 22-27 are not apparatus claims that include method steps or statements of intended operation the examiner disagrees because a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Applicant's arguments in this regard do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Further, applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Applicant appears to agree with the examiners contentions because applicant's 8/19/05 response, page 38 last paragraph states, "one skilled in the art will recognize that, without considering the conduit's size and configuration, just changing the operating parameters for a device (which is considered a method of operation) will not always result in the claimed flow characteristics." (Underlining added). The fact that applicant states "will not always" clearly shows that even the applicant appears to concede that "it may at some point, sometime, somehow" actually result in the claimed flow characteristics. This fact is evidence that such is so and therefore the Erdman reference still reads on the claims.

Additionally it is noted that applicant has not provided any factual evidence in support of the general allegations and as such the rejections are sustained.

Again, please note that statements as to possible future acts or to what may happen in a method or operation, or to the operation of the cooling channel to obtain different flow types, are essentially method limitations or statements of intended or desired use and do not serve to patentably distinguish the claimed structure over that of the references. See *In Re Pearson*, 181 USPQ 641; *In re Yanush*, 177 USPQ 705; *In re Finsterwalder*, 168 USPQ 530; *In re Casey*, 152 USPQ 235; *In re Otto*, 136 USPQ 458; *Ex parte Masham*, 2 USPQ 2nd 1647.

See MPEP 2114 which states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ 2nd 1647.

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than functions. *In re Danly*, 120 USPQ 528, 531.

Apparatus claims cover what a device is, not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ 2nd 1525, 1528

As set forth in MPEP 2115, a recitation in a claim to the material or article worked upon, does not serve to limit an apparatus claim.

Claim 36 is disclosed in the rejection of corresponding parts of claims 1-3 above.

13. Claims 1-5, 7-14, 17-20, 22-28, and 36 are rejected under 35 U.S.C. 102(a) as anticipated by APA (Admitted Prior Art) for the reasons set forth in section 20 of the previous office action mailed 4/21/2005 as explained below.

Applicant's arguments filed 8/19/2005 have been fully considered but they are not persuasive.

Applicant's amendment to claims 1-5 and 13 and newly added claim 36 do not define over the APA.

APA front face (112) reads on the front face, Backside (212) reads on the back end opposite said front face, APA clearly has an outside surface between said front face and said back end, Figure 3 clearly shows APA has an upper wall that is indeed substantially perpendicular to the front face and that cooling

channels (302) and (304) run alongside a portion of the upper wall wherein it is understood that as shown in Figure 1 the upper wall is indeed arcuate and the cooling channels as they travel from the bottom to the top of the target are indeed running alongside a portion of the upper wall as the claim language does not define over such interpretation. In this regard it is noted that the limitation "running alongside" does not connote any particular structure or relationship of closeness or nearness of structure per se, as it is contemplated that two lanes of a divided highway are indeed running alongside each other.

The limitation "a conduit defined within said target body" does not define over the structure of APA because the cooling channels (102), (104), (202), (204), (302), (304), etc. are clearly conduits as per the attached definition because they are indeed a channel (see also the attached definition of channel) through which cooling fluid is conveyed and they are indeed defined by or enclosed within at least the outer surface of the target body. It is noted that the claim language does not require the coolant channels to be completely enclosed within, fully enclosed by, or defined inside or internally to the target body, hence applicant's amendment has not defined over the APA.

Regarding claim 4 clearly figures 1-3 show at least 7 cooling channels running in parallel to each other and it can be considered that since the channels are divided and run alongside both sides of the target body, then there are at least 14 parallel channels.

Claim 5 is clearly disclosed in Figure 2 and explained in section 20 of said 4/21/05 Office action wherein there are at least two parallel channels directed around the inlet and outlet openings and 5 channels running there between, all of which are running alongside the back wall of the target chamber.

Regarding claims 10, 11 and 18, applicant is directed to the discussion of these claims means-plus-function language in section 12 above as well as section 20 of the previous office action mailed 4/21/2005. The target chamber of the APA inherently includes means for inducing fluid flow, i.e. natural circulation as previously explained in both sections. It is further contemplated that since the cooling channels of APA have less material between the upper wall and the cooling channels then more heat will be removed from the upper area hence the heat sink is above the heat source. Regardless, the beam strike area (312) as shown in, for example Figure 3 is clearly closer to the bottom of the target chamber than the top, therefore inherently this area will absorb the incident energy, thereby heating up, lowering in density and rising, hence natural circulation and "means for inducing fluid flow" are clearly disclosed.

Regarding claims 12 and 28, applicant is directed to figure 1 wherein it is shown that the upper wall of the target chamber clearly has an arcuate cross section.

Regarding claim 13, clearly the upper portions of the cooling channels (302) and (304) run alongside the upper wall and cooling channels (202) and (204) run alongside the back wall of the target chamber.

Claims 7, 8, 22-27 are still rejected for the reasons set forth in section 20 of the 4/21/05 Office action as explained in the rejection of these claims set forth in section 12 above regarding the intended use and method limitations contained within the language of these claims herein incorporated by reference.

14. Claims 1-4, 6-11, 13, 15-20, 22-29 and 32-36 are rejected under 35 U.S.C. 102(b) as anticipated by "Tantalum [^{18} 0] Water Target for the Production of [^{18}F] Fluoride with High Reactivity for the Preparation of 2-DEOXY-2-[^{18}F] Fluoro-D-Glucose," by N. Satyamurthy, Bernard Amarasekera, C. William Alvord, Jorge R. Barrio, Michael E. Phelps, in Molecular Imaging and Biology, Vol. 4, No. 1, at 65-70 (2002) (hereafter Satyamurthy) for the reasons set forth in section 21 of the previous office action mailed 4/21/2005 as explained below.

Applicant's arguments filed 8/19/2005 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the inlet and outlet to directly remove heat from the target chamber) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant's amendment to claims 1-5 and 13 and newly added claim 36 do not define over Satyamurthy.

Regarding claims 1 and 36, Satyamurthy figure 1 clearly shows "an upper wall", which reads on that "portion" of the upper wall that is the uppermost portion of the upper wall, that reads on being substantially perpendicular to said front face wherein it is understood that the claim language does not define over such an interpretation of the reference and again although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

The cooling channels of Satyamurthy are clearly defined within the target body and as explained in section 10 above the limitations "running alongside a portion of" cannot be given any definite meaning therefore it is considered that at least the closest portion of the cooling channel does indeed run alongside a portion of the upper wall and the claim language does not define over such interpretation.

Regarding claim 2, the inlet-cooling channel does indeed run alongside a portion of the back wall of the target chamber as explained in section 10 above the limitations "running alongside a portion of" cannot be given any definite meaning therefore it is considered that at least the closest portion of the cooling

channel does indeed run alongside a portion of the upper wall and the claim language does not define over such interpretation.

Regardless of the presence of a "reservoir" or "chamber" the cooling channels as explained still run alongside a portion of the back wall . The limitation "for removing heat contained in said target chamber" is considered an intended use of the cooling channel and as previously explained this coolant channel is inherently capable of such intended use and as such the claim language does not define over the reference.

It is noted that the claim contains statements of *intended or desired use*. However, there is well settled case laws that such statements (for removing heat) as to possible future acts or to what may happen in a method or operation, are essentially method limitations or statements of intended or desired use and do not serve to patentably distinguish the claimed structure over that of the references. See *In Re Pearson*, 181 USPQ 641; *In re Yanush*, 177 USPQ 705; *In re Finsterwalder*, 168 USPQ 530; *In re Casey*, 152 USPQ 235; *In re Otto*, 136 USPQ 458; *Ex parte Masham*, 2 USPQ 2nd 1647.

See MPEP 2114 which states:

> A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ 2nd 1647.
>
> Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than functions. *In re Danly*, 120 USPQ 528, 531.

Apparatus claims cover what a device is, not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ 2nd 1525, 1528

As set forth in MPEP 2115, a recitation in a claim to the material or article worked upon, does not serve to limit an apparatus claim.

Regarding claim 4, the inlet cooling channel reads on the second cooling channel which is indeed parallel to said first channel and is also running alongside at least a portion of said upper wall (as explained above) and the second cooling channel is indeed a conduit defined within the target body.

Regarding claim 6 and applicants arguments in support thereof, see page 33 of the arguments received 8/19/2005 it is noted that paragraphs 35-37 of the specification as filed are directed towards the method of operation and not structure, per se. Satyamurthy clearly teaches those of ordinary skill in the art that it is known to be beneficial to decrease the wall thickness of a target coupled with efficient target body cooling in order offset the modest thermal conductivity of the material of construction of said target. Regardless, applicant's arguments are unpersuasive as applicant has not shown that the references do not teach what the examiner has stated they teach.

Claims 7, 8, 22-27, 33 and 34 are still rejected for the reasons set forth in section 21 of the 4/21/05 Office action as explained in the rejection of these claims set forth in section 12 above regarding the intended use and method limitations contained within the language of these claims which is incorporated herein by reference.

Satyamurthy clearly discloses claim 9 in Figure 1, wherein the back wall of the upper portion of the target chamber labeled "Reflux Volume" reads on the back wall and the upper wall reads on that "portion" of the upper wall that is the uppermost portion of the upper wall, that reads on being substantially perpendicular to said front face wherein it is understood that the claim language does not define over such an interpretation of the reference.

While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

Regarding claims 10, 11 and 18 applicant is directed to the discussion of these claims means-plus-function language in section 12 above as well as section 21 of the previous office action mailed 4/21/2005. The target chamber of Satyamurthy inherently includes means for inducing fluid flow, i.e. natural circulation as previously explained in both sections. Regardless, the beam strike area as shown in, for example Figure 1 is clearly closer to the bottom of the target chamber than the top, therefore inherently this area will absorb the incident energy, thereby heating up, lowering in density and rising, hence natural circulation and "means for inducing fluid flow" are clearly disclosed.

Satyamurthy discloses claim 13 in the explanation and rejection of corresponding parts of claims 1 and 2 above.

With regard to applicant's invocation of the means-plus-function limitations as permitted by 35 U.S.C. § 112 paragraph six with respect to claim 32 (see, for example, Applicant's 8/19/2005 arguments page 19, second paragraph) the limitations "a means for containing a target liquid" and "a means for cooling" are explained below.

"a means for containing a target liquid": Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Applicant directs attention to paragraphs 30 and 31 of the specification in an attempt to apparently limit what can be considered equivalent structures, however it is noted that said paragraphs 30 and 31 are merely describing only one embodiment, wherein, for example, paragraphs 24, 28 and 39 of the specification clearly disclose that "the means for containing a target liquid" are not limited to only those embodiments disclosed and therefore do not exclude the structure of Erdman.

Satyamurthy clearly discloses "a means for containing a target liquid", because the structure of Satyamurthy clearly contains " a target chamber within the target body" as allowed by page 10 of the specification, lines 12-14 which inherently performs the function specified by the claim, i.e. containing a liquid and as explained above, Satyamurthy clearly has structure performing the function

specified in the claim in substantially the same manner as the function is performed by the corresponding elements described in the specification as shown in the explanation above as well as section 21 of said 4/21/05 office action.

Regarding "a means for cooling", again, applicant has merely disclosed embodiments of cooling means without the exclusion of Satyamurthy. According to paragraph 30, lines 16-19 of the specification, "the function of cooling the target assembly is performed by at least one cooling channel adjacent to and parallel to the upper wall, with the cooling channel having developed flow."

As previously explained, Satyamurthy clearly has at least one cooling channel adjacent to and parallel to the upper wall which is inherently capable of having developed flow.

As to limitations which are considered to be *inherent* in a reference, note the case law *In re Ludtke*, 169 USPQ 563, *In re Swinehart*, 169 USPQ 226, *In re Fitzgerald*, 205 USPQ 594, *In re Best et al*, 195 USPQ 430, and *In re Brown*, 173 USPQ 685,688.

Claim 35 is disclosed in the rejection of corresponding parts above wherein it is understood that the cooling channels are indeed enclosed within said target body.

Claim Rejections - 35 USC § 103

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claims 6, 16, 29, and 30 are rejected under 35 U.S.C. 103(a) as obvious over Erdman in view of "Tantalum [^{18} 0] Water Target for the Production of [^{18}F] Fluoride with High Reactivity for the Preparation of 2-DEOXY-2-[^{18}F] Fluoro-D-Glucose," by N. Satyamurthy, Bernard Amarasekera, C. William Alvord, Jorge R. Barrio, Michael E. Phelps, in Molecular Imaging and Biology, Vol. 4, No. 1, at 65-70 (2002) (hereinafter Satyamurthy) for the reasons set forth in section 24 of the previous office action mailed 4/21/2005 and further explained in section 12 above.

Both Erdman column 6 lines 25-33 and column 7 lines 30-34 and Satyamurthy page 67, see the column on the right hand side, discuss materials of construction of the target body. Both address the issue of lower thermal conductivity by, for example, efficient target body cooling and decreasing or thinning wall thicknesses thereby improving heat conductivity and facilitating cooling of the liquid target.

Applicant alleges that within the specification as filed, paragraphs 35-37 discuss the Satyamurthy article, however it is not seen wherein said paragraphs specifically address each and every contention raised by the examiner thus said paragraphs are insufficient in overcoming the examiners exertions.

Again, at the time of applicants invention, it would have been obvious to one of ordinary skill in the art to fabricate the target body of Erdman out of tantalum for the benefits stated within both references, such as inertness towards the fluoride ion, chemical inertness to the irradiation environment, etc. as such is also nothing more than well known functionally equivalent material.

Regarding claim 29, Erdman discloses applicant proposed invention substantially as claimed and described in section 12 above and applicant's declaration has also already been addressed above and cannot be relied upon to be dispositive of the examiners contentions.

Further, the limitations "running alongside a portion of" have also already been addressed in sections 10. D and 12 above.

As for the method limitations and statements of intended use, these topics have also already been addressed in the rejection of corresponding parts above, however for applicant's benefit, at least the following limitations are considered method limitations or statements of intended or desired use:

"for removing heat contained within said target chamber" and

"sized such that said first/second cooling channel sustains a developed flow" (see, for example the explanation regarding claims 7, 8, 33 and 34 on page 11 and claims 22-27 on page 14 of the 4/21/2005 Office action)

Again, as previously explained, these limitations are considered method limitation or statements of desired or intended use and therefore do not patentably distinguish over the references as cited and explained.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., two cooling channels, each running alongside one of two walls of the target chamber) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim 30, is explained in the rejection of corresponding parts in sections 19 and 24 of the Office action mailed 4/21/2005 as well as further explained in section 12 above, however, for applicant's benefit, it is noted that claim 30 simply requires that the third and fourth cooling channel are spaced a selected distance from the back wall as the limitation substantially parallel is explained in said sections 19 and 24 of the Office action mailed 4/21/2005 as well as further explained in section 12 above.

It is noted that applicant has only amended claim 29 to include the limitation "running alongside a portion of" and the indefiniteness of this limitation

has been discussed in section 10.D. above and therefore it is considered to still read on the structure as explained in said sections 19 and 24 of the Office action mailed 4/21/2005 with regard to this claim and as stated above, these reasons are incorporated herein by reference.

17. Claims 6, 16, and 29-31 are rejected under 35 U.S.C. 103(a) as obvious over APA (Admitted Prior Art) in view of "Tantalum [^{18} 0] Water Target for the Production of [^{18}F] Fluoride with High Reactivity for the Preparation of 2-DEOXY-2-[^{18}F] Fluoro-D-Glucose," by N. Satyamurthy, Bernard Amarasekera, C. William Alvord, Jorge R. Barrio, Michael E. Phelps, in Molecular Imaging and Biology, Vol. 4, No. 1, at 65-70 (2002) (hereafter Satyamurthy et al.) for the reasons set forth in section 24 of the previous office action mailed 4/21/2005 and further explained in section 13 above.

Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Applicant's arguments regarding claim 29 have been fully considered but they are not persuasive because as explained in section 10. D. above the limitation running alongside a portion of can be given no definite meaning and regardless that allegedly a significant portion of the target body material is intervening between the target chamber and the cooling channel, the claim language does not define over such. As previously explained the distance between or what exists there between is irrelevant because as previously stated, opposite lanes of a divided highway do indeed run alongside each other and neither the specification nor the claim language define over such interpretation of "running alongside".

Further with regard to the angle in which the cooling channel relates to the back wall, again, applicant's claim language does not exclude such, nor define over the examiners interpretation of the reference.

Claim 30, is explained in the rejection of corresponding parts in sections 20 and 25 of the Office action mailed 4/21/2005 as well as further explained in section 13 above, however, for applicant's benefit, it is noted that claim 30 simply requires that the third and fourth cooling channel are spaced from the back wall as the limitation substantially parallel is explained in said sections 20 and 25 of the Office action mailed 4/21/2005 as well as further explained in section 13 above.

It is noted that applicant has only amended claim 29 to include the limitation "running alongside a portion of" and the indefiniteness of this limitation

has been discussed in section 10.D. above and therefore it is considered to still read on the structure as explained in said sections 20 and 25 of the Office action mailed 4/21/2005 with regard to this claim and as stated above, these reasons are incorporated herein by reference.

Conclusion

18. Examiner's Note: Examiner has cited particular columns and line numbers in the references as applied to the claims for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel L. Greene Jr. whose telephone number is (571) 272-6876. The examiner can normally be reached on Mon-Fri 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

21. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DIG
2005-10-29

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